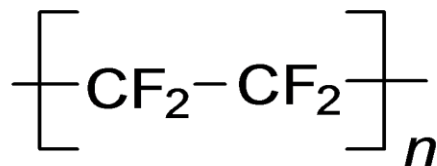


Carbon/Graphite Filled Polytetrafluoroethylene (PTFE/Carbon/Graphite)

SPECIFICATIONS

Property	Spec	Value
Hardness	ASTM D-2240	62 D
Specific Gravity	ASTM D-792-66	2.13
Tensile Strength	ASTM D-1708-79	2,500 psi
Elongation	ASTM D-1708-79	200%
Flexural Modulus	ASTM D-790-80	1.20 x 10 ³ psi
Flexural Strength	ASTM D-790-80	
a) 1% Strain		1,900 psi
b) 3% Strain		-
Deformation		
a) 78° F, 2000psi, 24hrs	ASTM D-621-64	
Total Deformation		11.0%
Permanent Deformation		6.0%
b) 500° F, 600psi, 24hrs	ASTM D-621-64	
Total Deformation		18.0%
Permanent Deformation		13.0%
Limiting PV		
a) 10 fpm		12,000 psi x fpm
b) 100 fpm		13,000 psi x fpm
c) 1000 fpm		15,500 psi x fpm
Wear Factor	K x 10 ⁻¹⁰	15.0
Coefficient of Friction		
a) Static @ 33.33 psi	ASTM D-3702	.06
b) Dynamic @ 33.33 psi, 150 fpm	ASTM D-3702	.07
Color		Anthracite



DESCRIPTION

MT06 is a PTFE material with hardness 62 Shore D, specially compounded with carbon-graphite fillers. Polytetrafluoroethylene (PTFE) has exceedingly strong carbon-fluoride bonds (C-F). PTFE has a simple, linear, flexible and regular molecular structure, which makes it highly crystalline. Commercial PTFE is a high molecular weight polymer. Fluorine atoms form a tight sheath of protection providing PTFE with extreme molecular and physical properties. The sheath prevents PTFE from external influences upon the carbon-carbon backbone. It also results in weak interactions/bindings between polymer chains. These molecular structure properties make PTFE extremely resistant to chemicals or solvents even at very high temperatures and high pressures. PTFE also has very low friction and good anti-stick characteristics. PTFE is tough and flexible even at very low temperatures. However the same molecular structure properties result in mediocre mechanical properties with low stiffness and strength among thermoplastics. PTFE articles cannot be formed with conventional processes for thermoplastics because it does not flow above its crystalline melting point. Parts can be formed by a sintering process under high temperatures.